GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

UNSTARRED QUESTION NO:3814
ANSWERED ON:08.04.2003
TRANSGENIC ANIMALS
CHANDRA NATH SINGH;SADASHIVRAO DADOBA MANDLIK

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether the Government have decided to develop transgenic animals in the country as reported in the Rashtriya Sahara dated 15th February, 2003;

(b) if so, the details thereof ?

(c) whether research and development work has begun in this direction in the biotechnology laboratories;

(d) if so, the details thereof;

(e) whether the Government have framed any manual on the Development of transgenic animals;

(f) if so, the details thereof;

(g) if not, the reasons therefor; and

(h) the details of the benefit of this scheme?

Answer

MINISTER OF STATE FOR SCIENCE AND TECHNOLOGY (SHRI BACHI SINGH RAWAT)

(a) : Yes Sir, Research work on transgenic animal using mice as a model animal has been initiated by the Department of Biotechnology in various laboratories.

(b), (c) &(d) : Department of Biotechnology, Government of India funded a multicentric programme on development of transgenic animal using mice as a model animal in 1997. This multicentric programme was initiated in three National laboratories/university viz. Indian Institute of Science, Bangalore, National Institute of Immunology, New Delhi and Tamil Nadu Veterinary and Animal Sciences University, Chennai. 18 lines of transgenic mice for biomedical research were developed. These transgenic lines are being maintained and are available for researchers. Besides these three centres, work is also being undertaken at Center for Cellular and Molecular Biology, Hyderabad. After establishing the technology in the laboratory animals, it is now also proposed to initiate a programme to develop transgenic livestock animal.

(e), (f) &(g) : All the transgenic research work including development of transgenic animals have to follow Recombinant DNA Safety Guidelines evolved by the Department of Biotechnology in 1990 within the Rules 1989 notified under the Environment (Protection) Act 1986.

(h) : The transgenic technology has been significantly beneficial for studies of gene expression, developmental biology, living bio-reactor for secreting valuable recombinant proteins and pharmaceuticals into the milk of transgenic animals. Transgenic animal can be developed as a model animal for human diseases and mouse is an ideal model organism as it is physiologically similar to humans. The technology has application in improving the animal productivity. Transgenic animal can be used for donor organs for Xenotransplantation.